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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,506	01/07/2002	Keigo Obata	50395-126	6027

7590 07/15/2004

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EXAMINER	
XU, LING X	

ART UNIT	PAPER NUMBER
1775	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/036,506	OBATA ET AL.	
	Examiner	Art Unit	
	Ling X. Xu	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/16/2004 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odanaka et al (JP-58-81985) in view of Kitada et al.(US 5,529,680).

With respect to the independent claim 17, Odanaka discloses a plating bath comprising 0.1-1.3 g/l of cobalt salt ("the second metal ion") and tetravalent titanium (abstract). Since the present of the tetravalent titanium in the plating solution stabilizes the plating solution against reduction and deposition of the second metal ions, see pages 22-24 of the specification of the present application, the plating solution of Odanaka

comprising the same tetravalent titanium ions can also has the same function of stabilizing the plating solution as claimed.

With respect to claim 15, Odanaka discloses the second metal ion is the cobalt ion (abstract).

With respect to claim 16, Odanaka discloses the amount of cobalt ion is 0.1-1.3 g/l in the solution. The ratio of Ti/Co ions in the solution is 0.01-0.4 (abstract). Accordingly, the concentration of tetravalent titanium ions is 0.001-0.52 g/l (0.01x0.1=0.001 and 0.4x1.3=0.52), which is about $2.1x10^{-5}$ - 0.011 mol/liter (molecular weigh of titanium is 47.9g/mol, 0.001/47.9=$2.1x10^{-5}$ mol/liter, 0.52/47.9=0.011 mol/liter). The concentration range of tetravalent titanium ions overlaps the claimed range of at least 0.001 mole/liter.

Odanaka does not disclose the plating bath composition comprising complex forming agent and stabilizer.

However, addition of the complex forming agent and stabilizer is known in the art, for example, Kitada teaches the addition of the complex forming agent such as EDTA (col. 8, 45-67) and stabilizer such as soluble carboxylate (col. 3, lines 30-40) in the plating bath composition.

Therefore, it would have been obvious to one of the ordinary skill in the art to add complex forming agent such as EDTA and stabilizer in the plating bath composition of Odanaka in order to maintain the plating bath in a stable condition and to provide more efficient electroplating process.

3. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traini et al. (US 4,230,542) in view of Kitada et al.(US 5,529,680).

With respect to the independent claim 17, Traini discloses a solution composition comprising 85.6 g/l of tetravalent titanium and ferric and ferrous ions ("the second metal ions") (col. 8, lines 30-40). Since the present of the tetravalent titanium in the solution stabilizes the solution against reduction and deposition of the second metal ions, see pages 22-24 of the specification of the present application, the solution of Traini comprising the same tetravalent titanium ions can also has the same function of stabilizing the solution against reduction and deposition of the second metal ions as claimed.

With respect to claim 15, Traini discloses the second metal ion is the iron ion.

With respect to claim 16, Traini discloses the amount of tetravalent titanium ions is 85.6g/l. Accordingly, the concentration of tetravalent titanium ions is about 1.79 mol/liter (molecular weigh of titanium is 47.9g/mol, 85.6/47.9=1.79 mol/liter). The concentration range of tetravalent titanium ions is within the claimed range of at least 0.001 mole/liter.

Traini does not disclose the plating bath composition comprising complex forming agent and stabilizer.

However, addition of the complex forming agent and stabilizer is known in the art, for example, Kitada teaches the addition of the complex forming agent such as EDTA (col. 8, 45-67) and stabilizer such as soluble carboxylate (col. 3, lines 30-40) in the plating bath composition.

Therefore, it would have been obvious to one of the ordinary skill in the art to add complex forming agent such as EDTA and stabilizer in the plating bath composition of Traini in order to maintain the plating bath in a stable condition and to provide more efficient electroplating process.

Response to Arguments

4. Applicant's arguments filed on 4/29/2004 have been fully considered but they are not persuasive.

The translation of JP 58-81985 has been provided to the applicant with the Advisory Action mailed on 6/4/2004.

With respect to the Odanaka reference, applicant argues that the claimed plating bath precursor is employed for electroless plating and the plating bath disclosed by Odanaka is an electroplating bath.

Applicant's arguments are not commensurate in scope with the claims. Because the claims do not require the argued limitations that the claimed plating bath precursor is employed for electroless plating. The claimed subject matter is merely a plating bath precursor composition, which comprising the first and second metals as described in claims 15-17. The intended use of the plating bath precursor for electroless plating described in the specification places no positive limitations on the claimed composition.

With respect to the Triani reference, applicant argues that the claimed palting bath is an electroless palting bath precursor and the plating bath disclosed by Triani is an electroplating bath.

Again, applicant's arguments are not commensurate in scope with the claims. Because the claims do not require the argued limitations that the claimed plating bath precursor is employed for electroless plating. The claimed subject matter is merely a plating bath precursor composition, which comprising the first and second metals as described in claims 15-17. The intended use of the plating bath precursor for electroless plating described in the specification places no positive limitations on the claimed composition.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ling X. Xu
Examiner
Art Unit 1775

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